

Guest opinion: The wasted resources in Utah water treatment

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We need to be strong advocates for wise environmental stewardship, but this must include rejecting policies and programs that have huge price tags and small benefits. Utah's current wastewater treatment plant, or WWTP, nutrient removal regulation perfectly fits this reject mandate.

Phosphorus and nitrogen removal at most Utah WWTPs is a waste. This opinion is based on my nearly 50 years of water quality research, lake and stream evaluations, and a wide variety of experiences with Utah Lake and other Utah WWTP receiving waters.

The price tag for this nutrient removal is many hundreds of millions of dollars now and, if not stopped, will likely exceed \$2 billion over the next 20 to 30 years. Because of this cost, sewer bills are climbing steeply and are headed for more than \$100 per month, per household, and in some locations much higher.

Removing nutrients from the water in Utah won't benefit us significantly. More than most areas around the country, the Great Salt Lake Basin has a history of geologically recent seas and lakes and now has a dusty, semiarid climate. Great Basin soils tend to contain elevated amounts of phosphorus, resulting in naturally high levels in most of our major valley-basin surface waters. For example, even without any human-caused phosphorus, Utah Lake would naturally receive several times more phosphorus than needed by its algae atmospheric deposition in rain, snow and dust alone. This supplies more phosphorus than needed by algae, along with high levels of nitrogen, also.

When already in natural surplus, additional nutrients don't cause more algal growth. Furthermore, the amount of algae growing in most WWTP receiving waters is actually not determined by the amount of nutrients, but rather by other, largely uncontrollable, growth-limiting factors. These actual growth-limiting factors are various combinations of: low energy — sunlight, shading, turbidity — water temperatures, shortages of other needed trace nutrients, presence of inhibiting substances, rapid changes in growth factors, grazing of other organisms, etc.

The recent Prepare60 and Reclaim60 water planning studies for Utah forecast that over the next 40 years \$33 billion for public water supply and \$15 billion for water quality will be "needed." If one adds "needs" in all these areas, new fees or taxes of many hundreds of dollars per family per month face us. Faced with potentially astronomical costs to meet our "needs," we must be conscientiously frugal and persistently strive to avoid wasteful or low-return public projects.

If just a staggering waste of money, why is nutrient removal being required? It's a long and many-faceted story — but the result is a mistaken, bureaucratic, extremely-costly WWTP nutrient-removal policy that will not gain significant water quality improvements. Also, one must ask: Although most WWTPs have already been pressured into beginning or planning nutrient removal, does that justify obediently continuing to waste more and more money for nutrient removal indefinitely into the future?

What should be done? The best solution would be for the Utah Water Quality Board to immediately rescind all WWTP nutrient removal requirements. The will to do so may be lacking since big reversals can be a tough board decision, particularly when at odds with the Utah Division of Water Quality, or DWQ, leadership. But still I would hope that the Water Quality Board would be courageous, and because of their serious fiduciary obligation to Utah citizens and their personal commitments to make the right decisions, tackle this tough issue and pass a rescission order.

Some think that a moratorium of 15 to 20 years would be sufficient for more scientific information to morph into knowledge regarding nutrients — and hence better management decisions. All the while, WWTPs are being required to add, modify or construct to remove nutrients.

Although the moratorium approach might be more politically palatable, it is much inferior to rescission since long WWTP planning and project-life periods and uncertainty concerning the final DWQ decision is forcing most WWTP staffs and boards to assume the worst outcome and move ahead with plans and construction to achieve almost complete removal of phosphorus and nitrogen, since the regulators might require it notwithstanding its ineffectiveness and the accompanying gigantic waste of citizens' money.

Do we want to waste hundreds of millions at the plants, while waiting for slowly moving scientific studies essentially aimed at determining whether or not we should be doing WWTP nutrient removal at all?

We are doing it anyway.

Meanwhile largely uncontrollable, nutrient-laden rain and dust from heavy atmospheric deposition in our area continues to thumb its nose at us and drop large amounts of nutrients onto our WWTP receiving waters. This is in addition to the already rather high natural levels in those streams, rivers and lakes, particularly in our valley-basin areas — in spite of the fantasy of some that unusually large atmospheric deposition doesn't really exist here. It does.

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